

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1 Claim 1. (currently amended) A method of producing a capillary optic by
2 impression comprising the steps of:
3 providing a wire mold having an external profile figured for reflective radiation
4 transmission along ~~an~~ a capillary axis;
5 providing at least one soft plate having a surface for reflective radiation
6 transmission,
7 impressing the wire mold into the soft plate;
8 removing the wire mold from the soft plate to leave a vacant capillary impression
9 figured for reflective radiation transmission in the soft plate along the capillary axis, and
10 enclosing the vacant impression to provide for ~~a vacant impression~~ for reflective
11 radiation transmission along the axis of the vacant capillary impression.

1 Claim 2. (currently amended) The method of producing a capillary optic
2 by impression according to claim 1 and wherein:
3 the enclosing step includes:
4 etching the wire mold out of the soft plate.

1 Claim 3. (currently amended) The method of producing a capillary optic
2 by impression according to claim 1 wherein:
3 impressing the wire mold into two soft plates ~~are used~~ on either side of the wire
4 mold.

1 Claim 4. (currently amended) The method of producing a capillary optic
2 by impression according to claim 1 and wherein:
3 the enclosing step includes placing a cover plate ~~is~~ over the vacant impression-
4 figured for reflective radiation transmission along a capillary axis.

1 Claim 5. (currently amended) The method of producing a capillary optic
2 by impression according to claim 1 and wherein:
3 ~~the mold is a wire.~~
4 providing two plates of material on either side of the wire mold;
5 impressing the plates over the wire mold to leave a capillary impression in each
6 plate for forming part of a vacant impression for reflective transmission; and,
7 enclosing the impression to provide for reflective radiation transmission along the
8 capillary axis of the impression by aligning the impression in each plate for forming a single
9 cavity for reflective radiation transmission.

1 Claim 6. (currently amended) The method of producing a capillary optic
2 by impression according to claim 5~~1~~ and wherein:
3 the wire mold is produced by an differential etching process.

1 Claim 7. (previously presented) The method of producing a capillary
2 optic by impression according to claim 1 and wherein:
3 providing two plates of identical materials; and,
4 the impressing step provides symmetrical imprints on the two plates.

1 Claim 8. (previously presented) The method of producing a capillary
2 optic by impression according to claim 1 and wherein:
3 providing two plates of different materials; and
4 the impressing step provides asymmetrical imprints.

1 Claim 9 (previously presented) The method of producing a capillary
2 optic by impression according to claim 1 and wherein:
3 the impressing step includes the use of rollers.

1 Claim 10. (previously presented) The method of producing a capillary
2 optic by impression according to claim 1 and wherein:
3 the mold having an external profile figured for radiation transmission is a
4 paraboloid.

1 Claim 11. (previously presented) The method of producing a capillary
2 optic by impression according to claim 1 and wherein:
3 the mold having an external profile figured for radiation transmission is an
4 ellipsoid.

1 Claim 12. (previously presented) The method of producing a capillary
2 optic by impression according to claim 1 and including the additional step of placing a reflection
3 enhancing film on the vacant impression before enclosing the optic.

1 Claim 13. (currently amended) The method of producing a capillary optic
2 by impression according to claim ~~11~~12 wherein the reflection enhancing film is a multi-layer
3 coating.

1 Claim 14. (previously presented) The method of producing a capillary
2 optic by impression according to claim 1 and including the steps of:
3 communicating the enclosed vacant impression with an x-ray tube to provide for
4 reflective radiation transmission along the axis of the vacant impression.

1 Claim 15. (previously presented) The method of producing a capillary
2 optic by impression according to claim 1 and including the steps of:
3 communicating the enclosed vacant impression with synchrotron radiation to
4 provide for reflective radiation transmission along the axis of the vacant impression.

1 Claim 16. (previously presented) The method of producing a capillary
2 optic by impression according to claim 1 and including the steps of:
3 communicating the enclosed vacant impression with an electron microprobe
4 instrument to provide for reflective radiation transmission along the axis of the vacant
5 impression.

1 Claim 17. (previously presented) The method of producing a capillary
2 optic by impression according to claim 1 and including the steps of:

communicating the enclosed vacant impression with light chosen from the group including visible, ultraviolet, or infrared light to provide for reflective radiation transmission along the axis of the vacant impression.

Claim 18. (previously presented) The method of producing a capillary optic by impression according to claim 17 wherein the light originates to the vacant impression from optical fibers.

Claim 19. (previously presented) The method of producing a capillary optic by impression according to claim 17 wherein the light originates from lasers.

Claim 20. (previously presented) The method of producing a capillary optic by impression according to claim 1 wherein the mold includes more than one wire.

Claim 21. (currently amended) An optical connector including:
~~at least one~~ two soft plate plates having a surface for reflective radiation transmission,
a vacant impression into ~~the~~ each soft plate having an ~~external~~ internal profile of a reflective cavity figured for reflective radiation transmission along ~~an~~ a capillary axis; and,
~~an enclosure over the vacant impression~~ the plates being aligned to register their respective external profiles to provide for reflective radiation transmission along the capillary axis of the vacant impression.

Claim 22. (previously presented) A process of connecting optical fibers comprising the steps of:

providing at least one soft plate having a surface for reflective radiation transmission;

placing a vacant impression into the soft plate having an external profile figured for reflective radiation transmission along an axis;

placing at least one optical fiber having an end to emit radiation into the vacant impression; and,

9 enclosing the external profile to permit radiation to travel between the optical
10 fiber and the vacant impression.

11 Claim 23. (previously presented) The process of connecting optical fibers
12 according to claim 22 and wherein:

13 placing at least two optical fibers having ends to emit radiation into the external
14 profile from opposite ends of the external profile.

1 Claim 24. (previously presented) The process of connecting optical fibers
2 according to claim 22 and wherein:

3 more than one vacant impression is placed into the soft plate having an external
4 profile figured for radiation transmission along an axis

1 Claim 25. (previously presented) The method of producing a capillary
2 optic by impression according to claim 1 wherein an optical coating is placed before the
3 impressing step.

1 Claim 26. (previously presented) The method of producing a capillary
2 optic by impression according to claim 1 wherein:
3 the plate has curvature.

1 Claim 27. (currently amended) The method of producing a capillary
2 optic by impression according to claim 1 wherein:
3 the plate includes a groove to ~~position~~ align the mold.